

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number  
**WO 2005/007858 A1**

(51) International Patent Classification<sup>7</sup>: C12N 15/63,  
15/64, 1/21

(21) International Application Number:  
PCT/KR2003/002927

(22) International Filing Date:  
31 December 2003 (31.12.2003)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2003-0048625 16 July 2003 (16.07.2003) KR

(71) Applicants (*for all designated States except US*): BI-  
OLEADERS CORPORATION [KR/KR]; 408-1,  
Sajeong-dong, Joong-gu, Daejeon 301-212 (KR). KO-  
REA RESEARCH INSTITUTE OF BIOSCIENCE  
AND BIOTECHNOLOGY [KR/KR]; 52, Oun-dong,  
Yuseong-gu, Daejeon 305-333 (KR).

(71) Applicants and

(72) Inventors: SONG, Young Shin [KR/KR]; 196-13 Jayang-  
dong, Dong-gu, Daejeon 300-831 (KR). POO, Haryoung  
[KR/KR]; 408-501 Yul-mae, 858 Jijok-dong, Yuseong-gu,  
Daejeon 305-330 (KR).

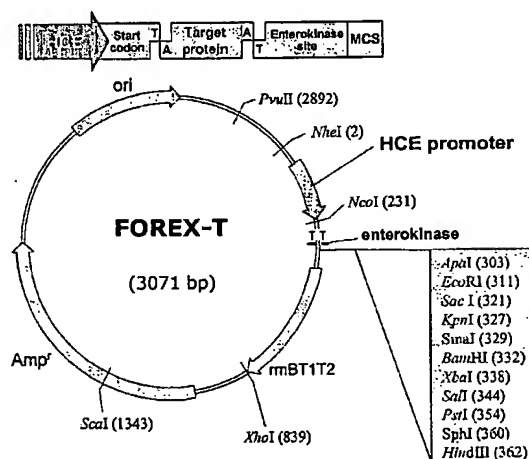
(72) Inventors; and

(75) Inventors/Applicants (*for US only*): SUNG, Moon  
Hee [KR/KR]; Jabes Bldg.302, 325-6 Jangdae-dong,  
Yuseong-gu, Daejeon 305-308 (KR). HONG, Seung  
Pyo [KR/KR]; 310-1503 Songgang Green APT., Song-  
gang-dong, Yuseong-gu, Daejeon 305-751 (KR). CHOI,  
Yoon Ho [KR/KR]; Na-301 Gongwon Mansion, 433-68  
Sajeong-dong, Joong-gu, Daejeon 301-212 (KR). KIM,  
Kwang [KR/KR]; 103-506 Daelim Dure Apt., Sin-  
sung-dong, Yuseong-gu, Daejeon 305-720 (KR). LEE, Il  
Han [KR/KR]; 802-1504 Sinwondang Apt., Sungsa-dong,  
Deokyang-gu, Goyang, Gyeonggi-do 412-020 (KR).  
PARK, Je Hyun [KR/KR]; 301 Artvill, 147-1 Sin-  
sung-dong, Yuseong-gu, Daejeon 305-804 (KR).

(74) Agent: LEE, Cheo Young; 4th Floor, Kyoung Sung Bldg.,  
641, Yeoksam-dong, Gangnam-gu, Seoul 135-080 (KR).

[Continued on next page]

(54) Title: PLASMID HAVING A FUNCTION OF T-VECTOR AND EXPRESSION VECTOR, AND EXPRESSION OF THE  
TARGET GENE USING THE SAME



(57) Abstract: The present invention relates to a plasmid (pHCE-FOREX) functioning as both a T-vector and an expression vector, which is produced by imparting a T-vector function to an HCE promoter derived from a constitutive high-level expression vector and can express a target protein in a simple and rapid manner. Also, the present invention relates to an expression vector having the target gene inserted into the plasmid, and the expression of the target gene using the same. The plasmid of the present invention can be converted into a vector that expresses the target protein by one-step T-vector cloning in a simple and rapid manner. The plasmid converted into the expression vector does not require a re-transformation step and allows the high-level expression of the target protein only by the culturing of transformed *E. coli* without the addition of an expensive inducer. Thus, according to the present invention, expression plasmids for large amounts of target genes can be produced at the same time, so that the present invention will be very efficient in establishing expression systems for certain genomes and gene groups.



(81) **Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

(84) **Designated States (regional):** ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.